In the Claims:

WHAT IS CLAIMED IS:

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117. (original) A method of speeding up the reading of analog to digital converter signals to a touch screen comprising the steps of:

reading a first coordinate of a coordinate pair at a first time;

consecutively reading the same coordinate at a second time;

determining if the absolute value of the difference between the first coordinate and the consecutive coordinate is less than a predetermined value; and

quantifying, responsive to the difference determining step the coordinate position as a function of the first or the consecutive coordinate.

118. (original) The method of claim 117 wherein the consecutive coordinate is used as the coordinate position.

119. (original) The method of claim 118 wherein the steps are repeated for the other desired coordinate position.

120. (original) Apparatus speeding up the reading of analog to digital converter signals to a touch screen comprising:

means for reading a first coordinate of a coordinate pair at a first time;

means for consecutively reading the same coordinate at a second time;

means for determining if the absolute value of the difference between the first coordinate and the consecutive coordinate is less than a predetermined value; and

means, response to the determining means, for quantifying the coordinate position as a function of the first or the consecutive coordinate.

121. (original) The apparatus of claim 120 wherein the consecutive coordinate is used as the coordinate position.

122. (canceled)

123. (original) The method of claim 117 wherein the consecutive coordinate is used as the coordinate position.

124. (original) The method of claim 118 wherein the steps are repeated for the other desired coordinate position.

125. (canceled)

126. (canceled)

127. (original) A method of eliminating noise from the reading of analog to digital converter signals to a touch screen comprising the steps of:

reading a first coordinate of a coordinate pair at a first time;

consecutively reading the same coordinate at a second time;

determining if the absolute value of the difference between the first coordinate and the consecutive coordinate is less than a predetermined value; and

quantifying, responsive to the difference determining step the coordinate position as a function of the first or the consecutive coordinate.

128. (original) The method of claim 117 wherein the consecutive coordinate is used as the coordinate position.

129. (original) The method of claim 118 wherein the steps are repeated for the other desired coordinate position.

130. (original) Apparatus eliminating noise from the reading of analog to digital converter signals to a touch screen comprising:

means for reading a first coordinate of a coordinate pair at a first time;

means for consecutively reading the same coordinate at a second time;

means for determining if the absolute value of the difference between the first coordinate and the consecutive coordinate is less than a predetermined value; and

means, response to the determining means, for quantifying the coordinate position as a function of the first or the consecutive coordinate.

131. (original) The apparatus of claim 120 wherein the consecutive coordinate is used as the coordinate position.

132. (original) In a touch-screen display system for generating pixel coordinate estimates responsive to a user touching a display screen, an apparatus for enabling detection of a "no touch" state of said touch-screen display system comprising:

at least one bus bar;

at least one driver electrically connected to said at least one bus bar to selectively switch said at least one bus bar between at least two of a plurality of electrical potentials wherein the at least one driver is selected to have an off state impedance establishing a pre-determined discharge rate.

133. (original) In a touch-screen display system for generating pixel coordinate estimates responsive to a user touching a display screen, an apparatus for enabling detection of a "no touch" state of said touch-screen display system comprising:

at least one bus bar;

at least one driver electrically connected to said at least one bus bar to selectively switch said at least one bus bar between at least two of a plurality of electrical potentials wherein the at least one driver is controlled to establish pre-determined discharge rates.

134. (original) A method of determining whether or not a touch screen has been touched comprising the steps of:

providing an analog to digital converter which supplies an analog to digital reading;

reading a maximum bit level;

determining whether the reading is smaller than the maximum bit level; and

determining the absence of a user touch if the modified reading is less than the maximum bit level.

135. (original) The method of claim 113 wherein the reading step includes the use of a pull up resistor.

136. (original) Apparatus determining whether or not a touch screen has been touched comprising:

means for providing an analog to digital reading from an analog to digital converter;

means for reading a maximum bit level;

means for determining whether the reading is smaller than the maximum bit level; and

means for determining the absence of a user touch if the reading is less than a maximum bit level.

137. (original) The apparatus of claim 115 wherein the providing means includes a pull up resistor.